

# PROCEEDINGS

## AMERICAN SOCIETY OF CIVIL ENGINEERS

NOVEMBER, 1955



### PLANNING NEW CITIES: PROBLEMS, TECHNIQUES AND SOLUTIONS

by Albert Mayer, M. ASCE

CITY PLANNING DIVISION

*{Discussion open until March 1, 1956}*

Copyright 1955 by the AMERICAN SOCIETY OF CIVIL ENGINEERS  
Printed in the United States of America

**Headquarters of the Society**

**33 W. 39th St.  
New York 18, N. Y.**

**PRICE \$0.50 PER COPY**

## THIS PAPER

--represents an effort by the Society to deliver technical data direct from the author to the reader with the greatest possible speed. To this end, it has had none of the usual editing required in more formal publication procedures.

Readers are invited to submit discussion applying to current papers. For this paper the final date on which a discussion should reach the Manager of Technical Publications appears on the front cover.

Those who are planning papers or discussions for "Proceedings" will expedite Division and Committee action measurably by first studying "Publication Procedure for Technical Papers" (Proceedings Paper No. 290). For free copies of this Paper—describing style, content, and format—address the Manager, Technical Publications, ASCE.

Reprints from this publication may be made on condition that the full title of paper, name of author, page reference, and date of publication by the Society are given.

The Society is not responsible for any statement made or opinion expressed in its publications.

This paper was published at 1745 S. State Street, Ann Arbor, Mich., by the American Society of Civil Engineers. Editorial and General Offices are at 33 West Thirty-ninth Street, New York 18, N. Y.

## PLANNING NEW CITIES: PROBLEMS, TECHNIQUES AND SOLUTIONS<sup>1</sup>

Albert Mayer,<sup>2</sup> M. ASCE

### SYNOPSIS

This paper points out opportunities that are being missed in the planning and development of large cities due to the fact that new technological developments are not being used creatively, even in new communities. The responsibility falls upon the planner to keep the policy makers interested in planning problems as plans for new towns are evolved. There must be continuity of planning, realistic progressive development, and citizen participation. The new Aluminum Company town of Kitimat in British Columbia and Chandigarh, the new capital city of Punjab in India, are discussed as examples of the use techniques recommended by the author.

---

I will divide this talk on the planning of new cities into two main sections. In the first part I want to develop the picture of today's tremendous opportunities which are, by and large, being missed by those who make or fail to make our major basic decisions. I want to stress this, because surely there is no better group than this, as engineers and as citizens, to grasp the basic issues and to demand and achieve more fitting action. And there is no better opportunity for it than this day of retrospect and of prospect. Then, later in this paper I will present some of the problems and opportunities that arise from the creation of new cities, and illustrate techniques and solutions for them.

It is appropriate at this centennial celebration to take a look backward, to see why and how our complicated overgrown cities have become what they are, to see why it seems to some of us that the most fruitful avenue of urban and human development in our time is in the building of new cities and in using them as object lessons in the re-development of our older cities. It is in the last hundred and fifty years that this agglomeration into huge amorphous cities has become accentuated and accelerated. It began with the industrial revolution. Steam-powered industry and steam-powered railroads were revolutionary technological developments that demanded great concentrations. So did the desirability of a large, cheap and varied labor supply. These compulsive tendencies have been reinforced by the superior cultural opportunities of the big city.

Today's overall new techniques that are basic in new town development, that permit simpler and better cities, are all decentralizing factors. Smaller cities in themselves offer far better opportunities for human development, human contacts, human validation and scale than our metropolises. In our big cities, ordinary people tend to "cut no ice." In our cities, ordinary people pay too high a price in the way of noise, tension, irritations and wasted time

---

1. Paper read at Centennial Conference of ASCE in Chicago, September 11, 1952.

2. Partner, Mayer & Whittlesey, New York, N. Y.

in transportation and traffic; in the tendencies toward family and social disintegration; and they can have little understanding and little control of a vast and remote governmental mechanism.

The accumulated new techniques are today basic factors which encourage creative revolution in urban development and in new town planning. Electric power has replaced steam power. It can go anywhere, and does not require concentration for economical use. The automobile, the truck and the airplane work toward the same result. Radio and television afford cultural opportunities which mean that the cultural life of smaller cities need no longer be barren or seriously handicapped.

This short history-diagnosis and inventory are old stuff, actually, to this audience. But the point is that these wonderful technological developments are not being used creatively. They are being used piecemeal in such combinations that they are leading to further deterioration. Industry is certainly and rapidly decentralizing, by all observations and indices. But it is decentralizing by itself, lopsidedly. It is not accompanied by a synchronous development of living communities. When it locates beyond a big city and people keep on living in the city, or in straggling developments between, there is a maximum of confusion, of added car traffic, bus traffic, subway traffic. When so used, the new techniques are actually worsening conditions. We pay for the luxury of this illogic and discomfort to the tune of say \$500,000 a mile for new widened traffic arteries which involve the acquisition of expensive land and demolition of structures. Or we come into the realm of the \$200,000,000 subway, and municipal and human bankruptcy. Where this one-sided development happens in the countryside, as in our Savannah Rivers, there is a similar dislocation, but in different specific terms. The hitherto peaceful countryside becomes a shambles of feverish land speculation, of shacks and trailers, of roadside dangers. So nothing basic is solved. It is still pretty much the same old muddle and we have got to go in later, use our fine tools to solve expensively and with only very partial success, what could easily have been solved well and happily and economically at the start.

The proper and creative and synchronized use of the new tools is beyond our control merely as technicians and planners. The basic decision as to the proper or improper use of these opportunities is taken at other levels, long before we do or not get a job to plan. The fact is that what should be big integrated social-technical decisions are made more or less arbitrarily by the prejudice of legislators, or by government administrators or corporation presidents who just don't want to be bothered about these matters or bother with them.

As engineers and citizens who understand these matters, we have an individual and a corporate duty to influence the basic policy decisions made on the political or administrative plane, so that there may at least be opportunities for creative planning. We should do our level best, for example, not to have the Atomic Energy Commission anarchically decide to create a Savannah River Project and let the devil take the hindmost as far as housing, living, recreation go—merely to save itself the trouble of proper complete planning and thinking through the management problems. This is really a very grave responsibility. It is not a detail for administrative decisions, but an important matter which will determine and is determining how millions of people are to work and live. We are uniquely qualified to interpret the gravity to our fellow-engineers, fellow-professionals and fellow-citizens, and we are responsible

that a forceful public opinion is created and energized on these very crucial matters that many well-informed people have never even heard about.

In view of these prevalent anarchic tendencies in current decentralization, we are, as professionals, all the more challenged to rise to the best possible work when the opportunity is offered, to show the real potentialities of new cities, and to show up by contrast the currently prevalent misuse of inherent possibilities.

Having cleared the decks on this overall policy-and-action plane, we can now look into some of the problems and solutions in the actual planning assignments, the place that various techniques have in them. To a professional group like this, I know that what you really want to know is what I would want to know and discuss if I were on the receiving end. What sort of specific problems were you faced with, and how did you solve them? Did you use any new methods or use them in a new way, from which we can learn something, or toward the improvement of which our comment and discussion will contribute? These specific items are important and interesting and are part of this paper. But there is another set of problems which my actual experience over the last years convinces me is much more important and absolutely fundamental. To these I want to devote major attention. If we as planners don't manage to hit them hard and successfully, the cleverness or the imaginative quality of our planning will not be nearly as fruitful as they should be, because the chances of its being implemented as it was visualized, and in that same spirit, are very small.

In beginning this section of my talk, I want to make it clear that there is no attempt to deliver anything like a complete and rounded coverage of the subject of planning new cities. That would be an imposition on a group of this kind. I simply want to present matters that in our work and experience seem to stand out as particularly interesting or significant or not generally known or emphasized.

The fact is that the first decision by your client, whether it is a government or an industry, to build a new town—important as that basic decision is—is only the firing off of a popgun in the whole campaign of building a new city. Too often the client is unwilling to go through the thorough painful thinking process, decision by decision, to understand, discuss, dispute if need be, so that he understands the reasons and the necessities. He must creatively contribute to solutions—quite often by making objections or suggesting alternatives. All in all, he must be really convinced so that he shares the enthusiasms, and the determination to give the new creation a real chance to express the joint intention of planner and client. I use the word *client*, and he, for simplicity; but that is one of the problems. The head man generally makes the first decision to have a new city and is active in selecting the planner. Then he, too, often disappears because he is a busy man, fails to participate step by step; comes back into the picture when the plan is pretty well frozen and worked out; has missed the travail of creation; possibly makes some quick judgment pro or con. The same thing unfortunately tends to be true down the line. Various busy people participate intermittently. Thus, in a sense, the only continuing element in the process has been the planner. Nobody else has grown up with it, feels any allegiance or love for it. Then, too, the eventual town manager is generally not employed till the planning is finished or nearly finished. Hence he hasn't grown up with it either.

Planning under such conditions is frustrating. And believe me, these are the usual conditions unless the planner is experienced, is determined not to let it happen and is skillful in human relations. It is one main reason, too,

why new towns are often considered a headache. They are, in effect, like foundlings left on somebody's doorstep, and nobody quite knows what to do with it, how to make it click. So I would say the most important job the planner has is to keep the boss and other key people interested throughout the planning process, to insist on their steady participation. He must also do his level best to have the future town manager employed very early in the planning process; and at least, also the Director of Public Works or City Engineer, the School Superintendent, and the recreation director. Not only will their advice be useful, but they start to identify with the project early, collaborate and help develop it, participate in the thinking and the solutions.

In the early days of a planned new city, before there is an official plan and an organized municipality, or any formed and articulate public opinion, this joint planning and continuity are the only assurance that the spirit of the plan will stick. There is no question of a rigid ironclad maintenance of plan as plan—for every plan must have give-and-take in it and must flexibly respond. But one must emphasize again and again that the designer-planner is only a temporary phenomenon in the picture. Faith and conviction and understanding by the administration are the indispensables. This indispensable continuity is further helped when the planner continues to participate regularly as consultant or in some way as a member of the group implementing it.

One terribly important aspect of this is the time-table of development, the time-order of the different elements. This is true in two senses. In the first place, however carefully the ultimate potential population is studied and predicted, no one can foresee exactly the rate of growth, or even whether the predicted ultimate total will be reached. Therefore, the planning group must lay out a town and a time-table for a city that at every stage will be reasonably self-contained, compact, economical and functionally viable. Its beauty and urbanity must not depend on the later stages adding the needed ingredients. For the ultimate stages may never be reached, or it may take fifty years to reach it. Canberra, the capital of Australia, is an example of an over-ambitiously planned and meantime very moth-eaten city. It has been called "A garden without a city," with vast open space between the small developed areas.

The second point here is that the time-order of development is important and must be very carefully visualized and maintained. Otherwise such elements as the school system and the shopping system, which are proportioned to and located with respect to economy of planned stage growth, will go out of kilter. In several cases, it was our presence as active continuing consultants to supply the continuity between the conceptual planning and actual execution, that avoided just this possibility.

There is one other very fundamental element on this general plane of what might be called—depending on the particular center of emphasis—planning statesmanship, or human relations in planning, or the realistic development of the plan. Just how will the planned city become a vital city? How will citizens take over from the original management? How can we avoid the usual initial non-participational psychology of the workers in the new city, which tends to perpetuate itself, once it takes hold? It is this combination of factors and problems which has caused headaches to industry and to the Atomic Energy Commission, to the extent that they fight shy of them, throwing out the baby with the dirty bath water. Translated, this means that most often they fight shy of the complete job. They just confine themselves to setting up the industry and letting the devil and the real estate speculator take the hindmost. I cannot here give the answer to this over-ridingly important



set of questions. To attempt it would take a whole paper in itself, even if I had a universally valid answer—which I have not. I do bring it up for this reason: the planning group must visualize and press this whole organizational-civic-participational question as early as possible. It is a tough nut to crack, but it can be solved; and if solved should remove the inertia and the objections of those who decide whether there shall or shall not be new towns.

There is one related and equally important facet. A plan, however excellent physically and functionally, must come to life. It can only come to life if the people who live there and who are to live there, individually make a real contribution to its development. If the thing is handed to them on a silver platter, if each individual hasn't had some hand in at some point, either by way of building or helping to build his own house or his garden, or by way of some help toward solving physical or neighborhood or school or recreational problems, the city will not have life, spiritual stimulation, no matter how fine it may be physically. The planning group must not monopolize the thinking and the effort and the imagination. The people's contribution is fully as important as the planners' contribution. The planners must provide for it, must convince the administrators to embrace it wholeheartedly as a fundamental ingredient in the success of the adventure.

It is this group of problems that has tended to be overlooked, and it is this very group that has been emerging in our experience as the most fundamental. They add a new dimension to our work. They constitute the core of planning statesmanship. They are essential to the real flowering of any plan. And it is important beyond the individual new city, throbbingly important as the quality of its new life is. If we solve this set of problems, as I think we are on the way to doing in current work, we remove the most serious drawbacks which tend to counterbalance the tremendous advantages of the new city, and will open the way to a much more general acceptance of their unparalleled possibilities in our unparalleled time.

It was originally suggested that I speak to this meeting on the use of new techniques in planning new cities. I have already covered this as far as concerns the broad issues in planning. Undoubtedly we do use new detailed techniques, but to place our emphasis exclusively, or even very heavily, on them would be to give a rather distorted picture of the opportunities and practises in the creation of new cities. The fact is that we do use some quite new techniques and solutions that our ancestors knew nothing of, but that we also use old techniques they knew very well, and new techniques that give us a scientific basis to attain some ends that they did through accumulated experience with nature and its conditions—which we have lost direct touch with. In this last group, we, for example, rely on micro-climatological studies and advice to reach the same kinds of conclusions our grandfathers came to through generations of their own slow accumulation of experience in orienting their streets and their houses, in placing their homes where they might either get maximum shelter from wind or maximum exposure to it, depending on the specific problem. I don't want to imply that what might be called the re-discovery of these important elements of folk-knowledge is the only type of contribution made by modern climatology and micro-climatology. It goes, as you will see, much further than that.

I will give you a striking example of a roundabout return, by way of very modern discovery, to a homely old institution. In our latest new city design—the town of Kitimat in British Columbia, which is part of a great power smelter and port development for the Aluminum Company of Canada—we have come, on the basis of our own thinking and advice by leaders in education, to

a modernized version of the Little Red Schoolhouse. Psychologists and educators are agreed that young children up to the fourth grade are better off in small simple close-to-home schools than in bigger schools which are now more customary, where they tend to get worried and lost in the shuffle. So we have these small schools, each serving as little as a sub-neighborhood of 100 families, a pleasant local center for mothers, besides.

The planning of new cities is, it need hardly be said, one of the most exhilarating and challenging experiences available to a mortal. It is a temptation, too. The temptation consists in relying excessively on our modern fancy techniques. We have a set of complicated tools and solutions that no previous generation of planners has ever had—all the way from subways, clover leaves and triple grade separations to air-conditioning and automatic traffic signals.

We can fail to refine and clarify and simplify our planning, fail to achieve optimum relation to climate and weather, fail to achieve the most convenient relations between living and working and recreation. Yet we can do an acceptable job because our modern devices permit us to find remedies from among a host of latter day practises which are feasible—but complicated and expensive. The best plan is still the plan that needs to rely least on such devices, which, when used sparingly, make a good plan better. In this way, we can, in virtue of our techniques, reach an unprecedented degree of amenity and perfection, rather than using them to make a complicated plan acceptable.

Indeed the principal reason why the accelerating rate of creation of new cities is an encouraging feature of the life of our time is that we can re-introduce simpler, more natural living; that by planning in harmony with nature we can create a calmer and happier environment, where the strain on our nerves is less, where we depend much less on complicated paraphernalia and much more on the rightness of human and physical relationships; that we can enhance these by our new techniques.

I have referred to the danger inherent in planning new cities. The main danger is that we are so habituated to the snarled-up conditions of existing cities, and the now customary ingenious and complicated and costly remedies, that we find trouble shaking ourselves loose from this background, and utilizing the creative opportunity of planning so straightforwardly that we need to use them only sparingly.

Now let's take a look at some illustrations of some of these points, some applications of specific techniques. I will draw them from three different projects of the last few years, which show applications of the same principles and methods to different specific conditions. There is the new city of Kitimat, British Columbia, ultimate population of 50,000, in a cold and snowy climate, at the mouth of the Kitimat River; Chandigarh, new capital city of the Punjab in India, in the hot Gangetic plain, first stage of population 150,000, ultimate 500,000; and Greater Bombay in India, on the sea, hot and humid, but fortunate in an almost constant sea breeze. The first two are entirely new cities; the last is expansion of a crowded city of 3,500,000 over a new added area twice as big as the original city.

I had read of flooding rivers and soil erosion as menacing but remote problems, problems that didn't particularly impinge on the city planner. The fact is that at Kitimat we had a river which increases from 600 cusecs at low, to 160,000 cusecs in peak flood; that this last winter in three hours the river rose 17'! The report from the job read "The surveyors took to the trees." The fact also is that a great deal of the damage caused by river floods in this country is due to locating parts of cities where they never should have been located, in the flood plains of rivers. Excessive damage and excessive



remedial costs. At Kitimat, our adviser on river training studied the geology and the topography and the river and precipitation records; as a result no portion of the town is in any danger from any flood beyond what can be taken care of by minor levees. Thus the turbulent river is allowed to go its way with a minimum of river training, and we ours. Our city is in the virgin wilderness. We have got to be careful to clear the wilderness in such a way as to avoid the too familiar historical pattern of excessive rain run-off and soil erosion caused by advancing civilization.

At Chandigarh, our relation to the problem of soil erosion was different, but equally critical. There we are in a plain, with centuries of soil denudation and intermittent streams. There, we have the problem of tying down the surrounding soil to avoid excessive dust. We also planned to dam up and make use of eroded channels within the city, as water features in that dry country. In both cities, tree shelter belts are included: in the one to keep down dust, in the other to minimize snow drifts.

In all three examples, we had careful studies made, to work with nature: negatively, to minimize any hostility it might show; positively, to make maximum creative use of conditions as we found them, and to minimize the penalty of ignoring them. In Kitimat, for example, with its prevailing tremendous North-South winds, we avoided that direction for streets. Where we had to come close to it, the streets were curved to break the wind. Due to the rainy climate there, we have some covered outdoor play spaces, both public and in the house plans; and covered walks in the shopping centers. In Chandigarh and in the new city of Faridabad in India, these covered walks keep off both the rain and the relentless sun. There we have in the case of minor streets often made them quite narrow—not only the roadway, but house-to-house distance so that they can shade each other. Too many of the new developments in the tropics and the East, where trees and vegetation are hard to grow and maintain, go in for unnecessarily wide spacing, which the relentless sun and the wind-blown dust make almost unbearable, even to look at. . . . In case anybody feels these things are too simple and obvious, let him look at most of the new developments around the world—among them some to which well-known names are attached.

We have been fortunate in much of our work in that we have done not only Master-Planning, but also detailed planning of certain neighborhoods to set up patterns and prototypes. Here is where the advice of our micro-climatologist has been invaluable, as well as our own sun studies. We all know the importance of orientation for sun and wind, but not in each case precisely how best to use or avoid their influence, as the case may be. I may say parenthetically that this doesn't mean abdicating your function or judgment to an expert, but a collaboration with him. But beyond that, the delicacy of his judgment and experience in making the most of topography were a tremendous help, and are a distinct contribution to planning. In Kitimat, he was able to prove to us definitely that a high residential area which we regarded as one of our best, would be so severely wind-swept that it should not be used for residential purposes. On the other hand, there is a strip of land at the bottom of a long ridge, which we considered would be poor for housing because it would be windless and warm. It was found that in the climatic conditions of Kitimat this is not true. Due to Katabatic effect, or down-draft of cool air in the evening, as the warm valley air rises, this becomes quite a pleasant living area.

In Bombay we have intense heat and humidity, which can be and is relieved by the heaven-sent ocean breezes, provided we everywhere make maximum use of them, and in particular don't let ourselves be blanketed in the hilly

terrain. We use the topography to funnel and enhance the effects in placing our residential areas. In the configuration of Bombay's climatic conditions, location not near bottom of hills, but higher up, turns out to be the most desirable.

It is in this group of techniques which might be characterized as promoting maximum cooperation with nature, that our work has, I think, broken new ground, or rather, studied and applied these techniques to the maximum feasible degree. I may mention a final instance. Of course every schoolboy knows that industry should be so located that the wind does not blow noxious fumes over residential areas. But this can by no means always be carried out because of other conflicting locational and economic requirements. A close study can be made of what fumes really do in the particular atmospheric conditions and topographic relationships, and this has sometimes uncovered possibilities in differing heights, which have been economically and satisfactorily utilized, even though on a flat map it would look like a mistake.

You will have observed that having regard to the limited length of this paper, I have preferred to hit certain points hard and at some length. I deliberately refrain from any academic exercise of a complete orthodox presentation such as the regional analysis and the place and economic function of your city in the region, land use plan considerations, population predictions, neighborhood and sub-neighborhood design, school system, etc. Each of these is important and indispensable as I need hardly say to you, but also very well known to you. Even in this category there is one item worth noting: the age distribution of population in a new town, with its initial high percentage of single people and childless couples; next succeeded by an abnormal predominance of young ones; and the subsequent change-over to a mature city of more normal configuration. This produces some surprising figures, and emphasizes the importance of flexible planning if the housing and the school system, to take the two items most affected, are to be adequate and economical for the varying conditions. These studies bring out particularly the importance of considering planning as an envelope that can provide well for a range of contents from maximum to minimum, rather than as a well-fitting glove.

In my selection of interesting elements for presentation, a few special features of traffic and roads are worth noting. In the U.S.A., the automobile is the only surface vehicle that need be considered. In the planning of foreign cities, the excellent and searching principles of traffic analysis we in the U.S.A. have played so large a part in developing still apply, but the elements to be dealt with are so different that entirely different solutions come out. We here have to deal with automobiles. The main problem is volume, segregation of through and local traffic, separation of truck and passenger vehicles. The elements entering into our problem in other areas of the world are different and in a way more complex. In addition to the automobile, we have animal-drawn vehicles, cycles, and volume intensity of pedestrians unknown here. Undoubtedly the proportion of automobiles will go up, but at what rate and to what ultimate is a challenging problem in extrapolation.

We do know, however, that the bicycle is a principal factor in traffic, and will be growingly so, because of its cheapness and convenience to the user. To the road planner it is a headache, because per unit passenger it requires the most road width; and it is slow-moving. In our designs, we use our slow-moving roads and lanes for "local" automobile traffic as here, but more importantly for the slow-moving vehicle. Further, we have introduced an established principle in a new situation: we have introduced bicycle "thru-ways." These are thru-ways with minimum of grade-crossings which will give

maximum convenience and speed to the cyclist while getting him out of the hair of the motorist. Mostly, they are pleasantly located in linear parks, and constitute one reason for such parks.

As for pedestrians, we are giving him a better break than he generally gets, in all our planning here and abroad, by segregating him and her pretty completely from through traffic, and in most cases giving him also a form of thru-way in our super-block interiors. These are, of course, safer and more convenient, and are worked out so as to be actually more direct than if he were to walk adjacent to the roads. It is interesting to note that in India, what may be called the unit intensity of pedestrians is quite heavy, because a larger number of workers is needed for a given volume of work. Hence the width of sidewalks becomes a matter for working out. It also means that underpasses at busy crossings are more frequently provided than we are accustomed to seeing here.

I would like to end this paper by a discussion of the technique of using specialists or experts, what I may call developing their integrated participation. All of us of course, employ a number of consultants in special work: for schools, health-and-hospitals, recreation, traffic and transportation, climatology, management-and-administration, landscaping, and others. It is, however, nowhere near enough to have each man act in his own specialty, and for the planner then to coordinate and put it all together into a plan and a report. Such use of specialists fails to develop their full value, fails to develop the maximum in inter-relationships or of integration, leaves their help compartmented. We are building the life of people in a city and the life of the city: not a school system, a recreation system, a health system, a road system. Not only do we want these items to inter-affect and inter-penetrate each other; we want each specialist to get an intimate view of the town as a whole and the intertwined place of his work in it.

For this reason, we have frequent conferences, at many of which all our specialists are present, whether their specific subject is to be specifically discussed or not. And our experts feel free to, and do, express opinions not only on their own field, but on any matter. We thus get all kinds of valuable views based on their experience both as people and specialists. We also try to achieve the attendance of our client group at some of the meetings, in addition to our formal meetings with them, to build them and their experiences into the picture—with varying degrees of success.

As a culminating step in trying to visualize and actualize the whole life of the individual men, women, children and families who will live in our city, to supply the living chemistry and cement, as it were, we now feel it is essential to include a sensitive urban sociologist—whether that is his or her exact professional title or not. To express this function less comprehensively and less pretentiously, we do this to reinforce and re-invigorate our own judgments and common sense. Our technique of the team meeting, and the inclusion of the urban sociologist or urban integrator, together form a major element in attaining our objective of planning for the whole man.

This planning for the whole man (and woman and child) includes planning for and evoking his participation as individual and as family, his private activity and civic activity; not only the need for participation and activity but also the need for quietude and withdrawal; the need for individual initiative and for cooperative effort. All these possibilities are readily and almost uniquely available in new cities. We have got to try our level best to measure up to them.

# AMERICAN SOCIETY OF CIVIL ENGINEERS

## OFFICERS FOR 1956

### PRESIDENT

ENOCH RAY NEEDLES

### VICE-PRESIDENTS

*Term expires October, 1956:*

FRANK L. WEAVER  
LOUIS R. HOWSON

*Term expires October, 1957:*

FRANK A. MARSTON  
GLENN W. HOLCOMB

### DIRECTORS

*Term expires October, 1956:*

WILLIAM S. LaLONDE, JR.  
OLIVER W. HARTWELL  
THOMAS C. SHEDD  
SAMUEL B. MORRIS  
ERNEST W. CARLTON  
RAYMOND F. DAWSON

*Term expires October, 1957:*

JEWELL M. GARRELTS  
FREDERICK H. PAULSON  
GEORGE S. RICHARDSON  
DON M. CORBETT  
GRAHAM P. WILLOUGHBY  
LAWRENCE A. ELSENER

*Term expires October, 1958*

JOHN P. RILEY  
CAREY H. BROWN  
MASON C. PRICHARD  
ROBERT H. SHERLOCK  
R. ROBINSON ROWE  
LOUIS E. RYDELL  
CLARENCE L. ECKEL

### PAST-PRESIDENTS

*Members of the Board*

DANIEL V. TERRELL

WILLIAM R. GLIDDEN

---

### EXECUTIVE SECRETARY

WILLIAM H. WISELY

### TREASURER

CHARLES E. TROUT

### ASSISTANT SECRETARY

E. L. CHANDLER

### ASSISTANT TREASURER

CARLTON S. PROCTOR

---

## PROCEEDINGS OF THE SOCIETY

HAROLD T. LARSEN

*Manager of Technical Publications*

DEFOREST A. MATTESON, JR.

*Editor of Technical Publications*

PAUL A. PARISI

*Assoc. Editor of Technical Publications*

---

### COMMITTEE ON PUBLICATIONS

SAMUEL B. MORRIS, *Chairman*

JEWELL M. GARRELTS, *Vice-Chairman*

ERNEST W. CARLTON

MASON C. PRICHARD

R. ROBINSON ROWE

LOUIS E. RYDELL